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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,420	12/03/2003	Tomoaki Miyashita	117735	4774

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EXAMINER	
BLACKMAN, ROCHELLE ANN J	
ART UNIT	**PAPER NUMBER**
2851	

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H·A

Office Action Summary	Application No.	Applicant(s)	
	10/725,420	MIYASHITA ET AL.	
	Examiner	Art Unit	
	Rochelle Blackman	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 13-17* is/are rejected.

7)☒ Claim(s) *12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/17/05 & 5/09/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Terminal Disclaimer

The terminal disclaimer filed on February 17, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on application no. 10/722,422 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Objections

Claims 11 and 14 are objected to because of the following informalities: Claim 11 recites the limitation "the first column of fins" and "the second column of fins" in line 2 of claim. There is insufficient antecedent basis for this limitation in the claim. In claim 14, line 3 of the claim, there should be a comma after the word "region". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-11 and 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyashita (JP Patent No. 2000-147475).

Regarding claim 1, Miyashita discloses an electro-optical apparatus (see 7 of Drawings 1-3) comprising: an electro-optical device (see 5, 50, 51 of Drawing 2) having an image display region (see open or exposed area inside 80 in Drawing 1) on which projection light from a light source (see 2 of Drawing 5) is incident, the electro-optical device having a first surface (see 5 in front of element 50 in Drawing 1 – the front being the area where elements 84 are referenced) and a second surface (see the other 5 behind element 50 in Drawing 1) facing opposite from the first surface; and a mounting case (see 80 of Drawing 1-3) including a plate (see 8 behind element 5 in Drawing 5) disposed to face the first surface of the electro-optical device (see 55 facing 5 in Drawing and a cover (see the other 8 in front of element 5 in Drawing 1) disposed to face the second surface of the electro-optical device such that the electro-optical device is at least partially between the plate and the cover, a portion of the cover abutting against the plate (see elements 8 and 8 abutting against each other in Drawings 1-3), the mounting case accommodating the electro-optical device by holding at least a portion of a peripheral region located at a circumference of the image display region of the electro-optical device with at least one of the plate and the cover (see the portion of 80, 84 that covers the peripheral region of 5, 50, 51 in Drawings 1-3), the cover having a surface area increasing portion (see 84) to increase the surface area thereof.

Regarding claim 2, Miyashita discloses the cover having a sidewall portion (see 8, 80) facing a side surface of the electro-optical device, and the surface area increasing portion increasing the surface area of the sidewall portion (see 80, 84).

Regarding claim 3, Miyashita discloses the surface area increasing portion having fins (see 84) protruding outward from the surface of the cover.

Regarding claim 4, Miyashita discloses the fins being formed to correspond to the direction of the flow of cooling air is supplied from the outside the mounting case (see 80, 84 in Drawings 1-3 and see 80 relative 84 in Drawing 6).

Regarding claim 5, Miyashita discloses the fins being provided in a straight shape (see 84).

Regarding claim 6, Miyashita discloses an electro-optical apparatus (see 7 of Drawings 1-3) comprising: an electro-optical device (see 5, 50, 51 of Drawing 2) having an image display region (see open or exposed area inside 80 in Drawing 1) on which projection light from a light source (see 2 of Drawing 5) is incident; and a mounting case (see 80 of Drawing 1-3) including a plate (see 8 behind element 5 in Drawing 5) disposed to face one surface of the electro-optical device and a cover (see the other 8 in front of element 5 in Drawing 1) to cover the electro-optical device, a portion of the cover abutting against the plate (see elements 8 and 8 abutting against each other in Drawings 1-3), the mounting case accommodating the electro-optical device by holding at least a portion of a peripheral region located at a circumference of the image display region of the electro-optical device with at least one of the plate and the cover (see the portion of 80, 84 that covers the peripheral region of 5, 50, 51 in Drawings 1-3), the cover having a surface area increasing portion to increase the surface area thereof, the surface area increasing portion having fins (see 84) protruding outward from the surface

of the cover, the fins being arranged in a zigzag shape (see shape of 84 in Drawings 1-3).

Regarding claim 7, Miyashita discloses the fins, being arranged in the zigzag shape, include a first column of fins having a plurality of small fins (see "fins" 84 arranged at the top of elements 8 or 80 in Drawing 1), and a second column of fins extending in parallel with the first column of fins and having a plurality of small fins (see "fins" 84 at the bottom of element 8 or 80 in Drawing 1), and one of the small fins of the plurality of fins that constitute the second column of fins being formed to be positioned adjacent to a gap (see area in the middle or in between "fins" 84 at the top or element 8 or 80 and "fins" 84 at the bottom of elements 8 or 80 corresponding to "image display region" which is the open area or exposed area inside element 80 in Drawing 1) between the small fins of the plurality of fins that constitute the first column of fins.

Regarding claim 8, Miyashita discloses the gap between the small fins being longer than a length of the small fin (see dimensions of the above-mentioned gap).

Regarding claim 9, Miyashita discloses a pitch between the small fins, which includes the gap between the small fins, being 3 mm or more (see dimensions of the above-mentioned gap).

Regarding claim 10, Miyashita discloses a height of the small fin being 0.5 mm or more, and a width of the small fin being .3 mm or more (see dimensions of "fins" 84).

Regarding claim 11, Miyashita discloses the fins including the first column of fins (see "fins" 84 arranged at the top of elements 8 or 80 in Drawing 1) and the second

column of fins (see "fins" 84 at the bottom of element 8 or 80 in Drawing 1) extending in parallel with the first column of fins, and a gap (see area in the middle or in between "fins" 84 at the top or element 8 or 80 and "fins" 84 at the bottom of elements 8 or 80 corresponding to "image display region" which is the open area or exposed area inside element 80 in Drawing 1) between the first column of fins and the second column of fins being 1 mm or more (see dimensions of the above-mentioned gap).

Regarding claim 13, Miyashita discloses the cover being made of a material of high heat conductivity (see paragraph [007], lines 6-13).

Regarding claim 14, the "mounting case" is similarly met by the elements recited for the "electro-optical apparatus" of claim 1.

Regarding claim 15, see elements recited for claim 2.

Regarding claim 16, Miyashita discloses a projection display apparatus (see Drawing 5), comprising: the electro-optical apparatus (7 of Drawings 1-3) the light source (2 of Drawing 5); an optical system (see 41-43, 45, 46, 75-78 of Drawing 5) to guide the projection light into the electro-optical device; a projection optical system (see 67 of Drawing 5) to project the light emitted from the electro-optical device; and a cooling air discharging portion (see 33 of Drawing 6) to supply cooling air to the electro-optical apparatus.

Regarding claim 17, Miyashita discloses wherein the plate, cover, and the electro-optical device are stacked in a stacked direction (see arrangement of the "plate", "cover", and "electro-optical device" in Drawings 1-3), the surface area increasing

portion of the cover including a tapered surface tapered in the stacked direction (see surface of 84 in Drawings 1-3), the tapered surface having an arched surface that extends in the stacked direction (see surface of 84 in Drawings 1-3 and the direction in which the sloping surface of 84 extends).

2. Claims 1, 2, 11, and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Akiyama et al. (U.S. Patent No. 5,170,195).

Regarding claim 1, Akiyama discloses an electro-optical apparatus (see FIG. 13) comprising: an electro-optical device (62) having an image display region (see S in FIG. 13) on which projection light from a light source (see L in FIG. 23) is incident, the electro-optical device having a first surface (see surface of 62 shown on element 61) and a second surface (this is the surface that would be facing element S of element 50 in FIG. 13) facing opposite from the first surface; and a mounting case (see 50 and 61 of FIG. 13) including a plate (see 61) disposed to face the first surface of the electro-optical device and a cover (see 50) disposed to face the second surface of the electro-optical device such that the electro-optical device is at least partially between the plate and the cover, a portion of the cover abutting against the plate (see col. 5, lines 26-28 – elements 51 and 64 of "cover" 50 is secured to "plate" 61), the mounting case accommodating the electro-optical device by holding at least a portion of a peripheral region located at a circumference of the image display region of the electro-optical device with at least one of the plate and the cover (see 50, 52, 61, and 62 in FIG. 13 and col. 5, lines 28-30 – "electro-optical device" 62 is provided in space 52 of "cover"

50), the cover having a surface area increasing portion (see 51, 53, 54, and 59 in FIG. 13) to increase the surface area thereof.

Regarding claim 2, the cover having a sidewall portion (see 51, 53, 54) facing a side surface of the electro-optical device, and the surface area increasing portion increasing the surface area of the sidewall portion.

Regarding claim 11, Akiyama discloses the fins including the first column of fins and the second column of fins extending in parallel with the first column of fins (see opposite facing "columns" of fins 13a located on the outside of 12 and fins near element 19 or located on the inside of 12 in FIG. 3), and a gap between the first column of fins and the second column of fins being 1 mm or more (see of the size of the area of 16 between the opposite facing "columns" in FIG. 3).

Regarding claim 13, Akiyama discloses the cover being made of a material of high heat conductivity (see col. 3, lines 9-11).

Regarding claim 14, the "mounting case" is similarly met by the elements recited for the "electro-optical apparatus" of claim 1.

Regarding claim 15, see elements recited for claim 2.

Regarding claim 16, Akiyama discloses a projection display apparatus (see FIG. 23); an optical system (see optical axes leading to from L towards LCb, LCr, LCg in FIG. 23) to guide the projection light into the electro-optical device; a projection optical system (PL) to project the light emitted from the electro-optical device; and a cooling air

discharging portion (57-59 of FIG. 13) to supply cooling air to the electro-optical apparatus.

Allowable Subject Matter

1. Claim 12 is allowed.

2. The following is a statement of reasons for the indication of allowable subject matter:

Claim 12 has been found to be allowable for the same reasons set forth in the previous Office action.

Response to Arguments

Applicant's arguments filed February 17, 2005, with respect to the rejection of claims 1 and 14 by Akiyama, have been fully considered but they are not persuasive.

Applicant argues Akiyama does not disclose a mounting case including a plate disposed to face the first surface of the electro-optical device and a cover disposed to face the second surface of the electro-optical device such that the electro-optical device is at least partially between the plate and the cover.

Examiner disagrees and maintains Akiyama clearly discloses a mounting case (50 and 61 of FIG. 13) including a plate (61) disposed to face the first surface (see surface of 62 shown on element 61 in FIG. 13) of the electro-optical device (62) and a cover (50) disposed to face the second surface (this is the surface that would be facing

element S of element 50 in FIG. 13) of the electro-optical device such that the electro-optical device is at least partially between the plate and cover.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rochelle Blackman whose telephone number is (571) 272-2113. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RB

JUDY NGUYEN
SUPERVISORY PATENT EXAMINER